# Watershed Restoration and Protection Goals

In the absence of a watershed coordinator typically associated with watershed action plans, the MARC Chair will be responsible for overseeing the progress of the goals and activities outlined below. Progress on the programmatic items will be delivered at regularly scheduled MARC meeting and posted on the MARC website. Progress for educational and public forum items will be delivered at regularly scheduled MARC meetings, posted on the MARC website and press releases as appropriate. The MARC will be responsible for maintaining all records and documentation associated with implementation of the plan.

**Water Quality Implementation Plan 1: Salt Contamination / Urban (5.3.2)**

*Activity 1*

Assist the Ohio EPA complete a Phase II Environmental Sight Assessment of the salt fill as well as providing technical support when necessary in enforcing the Chapter 6111 of the Ohio Revised Code violations of water quality standards on the property.

*Activity 2*

Assist the USACE to develop a Preliminary Restoration Plan — fully funded by the USACE Section 206 program — to address salt contamination in the Mentor Marsh. Continue working with the USACE program for Section 206 of the Water Resources Development Act of 1996 if approval from USACE is granted. The USACE Section 206 process is outlined below:

1. The **Preliminary Restoration Plan** (PRP) is 100 percent federally funded. A PRP has been requested and the remaining steps discussed below depend upon the findings of the PRP.

2. Either a **Planning and Design Analysis** is required for proposed projects with a federal cost greater than $1,000,000 or a **Feasibility Study** is required for proposed projects with federal costs below $1,000,000.

3. A **Detailed Project Report** is the approval document for Step 2 above.

4. **Plans and Specifications** must be developed.

5. **Construction** begins after the plans are approved. A **Project Cooperation Agreement** must be signed before construction begins.

6. The non-federal sponsor is responsible for 100 percent of **Operation and Maintenance** costs.

After a presentation by local MARC representatives explaining the salt pollution problem and the USACE authority to conduct a PRP, the City of Mentor requested that the USACE develop a PRP for the salt pollution issue under Section 206 of the Water Resources Development Act (WRDA) of 1996. A contract to conduct a PRP was to be initiated by the USACE in the spring of 2004. MARC members supplied data and information on Mentor Marsh (including the Fineran dissertation) to the USACE. The Section 206 of the WRDA is currently unfunded. No projects are currently being undertaken until funding is restored.

To continue participation in the Section 206 program, if granted by USACE, the following steps will need to be undertaken by the City of Mentor:

Step 1: Seek willing cooperators for restoration actions. Members of the MARC will seek cooperation from local, state, and federal government agencies. Members of the MARC will work with local authorities to seek USACE assistance in developing a PRP for aquatic ecosystem restoration of Mentor Marsh.

Step 2: Seek funding for restoration, remediation, and/or mitigation actions from federal and non-federal sources. Members of the MARC can assist the City of Mentor to identify potential sources of funding for planning and restoration actions. The Preliminary Restoration Plan under Section 206 of WRDA 1996 is 100 percent federally funded. Action beyond the PRP will depend upon the findings of the PRP, but restoration projects over $1,000,000 require a 35 percent nonfederal cost share. Ohio EPA's assistance will be necessary to develop salt remediation actions.

Step 3: Determine extent of salt contamination and future impact. The USACE PRP requested by the City of Mentor will provide information and direction needed to move forward in remediating the salt issue. The Fineran dissertation clearly documents the impacts and consequences of the salt pollution in Mentor Marsh and outlines a course of management action. Please refer to Appendix A for an outline of the Fineran dissertation.

Step 4: Obtain permission to conduct mitigation, remediation, and/or restoration actions on affected upland properties and marshlands within the Mentor Marsh watershed. Members of the MARC will seek opportunities to conduct studies and restoration actions on private property, government-owned land, and state nature preserves land.

*Activity 3*

Identify all new and/or unmapped wells and brine facilities. Document the type, location, and status (e.g., active, inactive, and/or capped). Ensure and document that all existing and/or abandoned wells and facilities are properly identified, sealed, and mitigated. The ODNR, Division of Mineral Resources Management has information on the oil and gas wells organized by county. These data are available on the World Wide Web at: www.dnr.state.oh.us/mineral/oil/map/index.html.

Local city, township, and county governments should be ultimately responsible for knowing locations of wells during the planning and development review processes at these local levels. This information is critical to prevent development that could be detrimental to public health and safety. Development in these areas should proceed cautiously and structures should not be placed directly on top of any oil or gas well. Policy changes at the local level may be necessary to enforce these recommendations.

*Activity 4*

Establish a Mentor Marsh monitoring program for chlorides and other pollutants and adjust the activities identified in this implementation plan as required by the monitoring results. Monitoring the results of mitigation, restoration, and remediation actions is vital to measure the degree of success over the long term. As this is the first SAMP developed by Ohio, this effort will be a model for others throughout Ohio. Without accurate monitoring of the program, long-term funding will not be available. The Mentor Marsh Board has acquired a conductivity meter and will do some monitoring. A monitoring plan will need to be developed. Soil testing should be conducted within the marsh where swamp forest restoration is to be encouraged.

*Primary Coordinating Agency*

Activity1:

The Lake County Soil and Water Conservation District is the primary coordinating agency responsible for overseeing this activity's implementation.

Activity 2:

The City of Mentor initiated the Section 206 program request to develop a *Preliminary Restoration Plan* and is the primary coordinating agency responsible for overseeing this activity's implementation.

Activity 3:

The MARC is the primary coordinating agency responsible for overseeing this activity's implementation.

Activity 4:

Mentor Marsh Board and Ohio Sea Grant are the primary coordinating agencies responsible for overseeing this activity's implementation.

*Participating Agencies, Organizations, and Entities*

The Cities of Mentor and Painesville, Lake County Soil and Water Conservation District (SWCD), Lake County Stormwater Management Department, and Mentor Marsh Board of Management all have local interest in preventing the additional salt pollution of Mentor Marsh.

The property owners of the mine tailings landfill and other parties potentially responsible for the salt contamination of the Mentor Marsh have an interest in this issue. The Ohio Department of Natural Resources (ODNR), Office of Coastal Management (OCM), Division of Natural Areas and Preserves (DNAP), and Ohio Environmental Protection Agency (EPA) have interests in the issue.

The USACE, Buffalo District, will provide significant support through the Section 206 program. Significant additional support will come from a variety of federal, state, and local resources. Significant formal and informal networking will be needed to accomplish the activities identified in the implementation plan.

*Costs*

A PRP to address salt contamination in Mentor Marsh will be conducted by the USACE at the request of a local government, agency, or organization. The cost to develop this Plan will be federally funded and is approximately $12,000. The PRP will provide estimated costs for remediation of the salt pollution in the Mentor Marsh.

Additional funding of the proposed activities is anticipated to come from federal, state, and local agencies as well as private property owners and developers.

*Timeline*

The anticipated timeline for this implementation plan is one to eight years.

Ohio EPA staff has indicated that the enforcement of the Chapter 6111 violations has been given to the Ohio Attorney General's Office. No timeline has been supplied by the AG's office.

Initial request for the Preliminary Restoration Plan (PRP) for Mentor Marsh was accomplished in August 2003. The request was made by the City of Mentor. When funding

levels are established for the Section 206 Program, the city will resume negotiations. The PRP for Mentor Marsh should be completed within six months to a year of the initial request to the USACE. Additional activities resulting from the USACE Section 206 program will be scheduled accordingly following acceptance into the program.

Appropriate emergency mitigation, remediation, and/or restoration actions may be initiated as funding becomes available and need not wait for the completion of the final feasibility study.

*Existing Programs*

The Mentor Marsh Board of Management advises the Cleveland Museum of Natural History (CMNH) on the management of Mentor Marsh. The Marsh Board has an educational mission to teach about the natural history of the marsh. The CMNH works with the Ohio Department of Natural Resources (ODNR) Division of Natural Areas and Preserves (DNAP) to cooperatively manage and protect Mentor Marsh State Nature Preserve.

As much as possible the action items in this plan should be networked with existing and ongoing ecosystem and water quality protection efforts. Existing programs and authorities must be involved in the review and decision-making process including the MARC and other federal, state, and local authorities that have appropriate legal jurisdiction, responsibility, and authority for protecting, preserving, and monitoring the Mentor Marsh ecosystem.

*Public Outreach Component*

Throughout the USACE Section 206 program, information will be distributed to the public through public meetings.

*Objective*

Restore the aquatic ecosystem of Mentor Marsh by eliminating salt contamination from existing sources of contamination including the salt mine tailings mound, brine storage lagoons, wells and pipes, and other known or unknown point or non-point sources.

**Wetlands and Biodiversity Implementation Plan 1: Wetlands Mitigation / Urban (5.3.2)**

*Activity 1*

Track developments and permit requests to impact wetlands and streams in the Mentor Marsh watershed. Lake County SWCD will maintain an ongoing record tracking the number of-acres of wetlands lost, created, restored, and/or protected due to development within the Mentor Marsh watershed in the past ten years. These records will be maintained as new development occurs.

*Activity 2*

Identify willing cooperators and funding for mitigation opportunities that include protection, restoration, and creation actions. The MARC will seek cooperation from local, state, and federal government agencies. The MARC will work with local authorities to seek USACE assistance in developing mitigation opportunities within the Mentor Marsh watershed. The Mentor Marsh Board will help identify potential mitigation projects. Permission to conduct mitigation, remediation, and restoration actions on affected upland properties and marshlands within the Mentor Marsh watershed will be sought. These actions may be performed on private property, government-owned land, and state nature preserves land. Mitigation opportunities should be explored with regulatory agencies.

Mitigation opportunities should seek to implement the following key recommendations:

- Acquire additional marsh land and buffer areas
- Protect remnant swamp forest
- Establish a permanent monitoring site on Blackbrook, upstream of Mentor Marsh
- Monitor the salt fill dump site
- Study the impact of salt pollution on soils in the Mentor Marsh
- Monitor the ground and surface water hydrology of the Mentor Marsh
- Prevent fires
- Reduce flood stress

*Activity 3*

Work with developers to keep wetland mitigation projects and money within the Mentor Marsh watershed. By continuous monitoring of permit requests to impact wetlands and streams in the Mentor Marsh watershed, the MARC will be able to identify developers seeking to perform mitigation for their proposed impact(s). Members of the MARC will continue to actively participate in the public comment process initiated by the regulatory authorities—USACE and the Ohio EPA.

The identification of potential mitigation opportunities as discussed in Activity 2 above will provide MARC members with information that can be shared with developers to assist them in coordinating mitigation projects in the Mentor Marsh watershed. The primary hydric soils layer is a source of information that should be used to prioritize potential mitigation sites.

*Primary Coordinating Agency*

Activity 1:

Lake County Soil and Water Conservation District (SWCD) is the primary coordinating agency responsible for overseeing this activity's implementation.

Activity 2:

Marsh Area Regional Coalition (MARC) is the primary coordinating agency responsible for overseeing these activities' implementation.

Activity 3:

Marsh Area Regional Coalition (MARC) is the primary coordinating agency responsible for overseeing these activities' implementation.

*Participating Agencies, Organizations, and Entities*

The U.S. Army Corps of Engineers (USACE) and the Ohio Environmental Protection Agency (EPA) have federal and state regulatory authority, respectively, over wetlands. The Cities of Mentor and Painesville, the Cleveland Museum of Natural History (CMNH), and the Mentor Marsh Board all have local interest in keeping wetlands mitigation in the Mentor Marsh Watershed. The Ohio Department of Natural Resources

(ODNR) has interests in the issue. Developers who impact wetlands have an interest in the issue.

This Plan should be well coordinated with the activities of USACE, Ohio EPA, Lake County Planning Department, Lake County SWCD, planning departments for municipalities, and other public entities responsible for local level site plan review.

*Costs*

Costs to mitigate for wetlands can be substantial and may be useful in protecting the water quality of Mentor Marsh if kept in the Mentor Marsh watershed. Costs are not available at this time but might range from $10,000 to $20,000 per acre or more depending on each individual mitigation project. The party responsible for the loss and/or degradation of wetlands pays costs for mitigation.

*Timeline*

This is an ongoing activity to monitor the wetlands loss and corresponding mitigation actions. As projects are proposed and wetlands are degraded or lost, specific mitigation projects will be needed. Wetlands mitigation will be an ongoing task for the MARC and other local groups. The Mentor Marsh Board and the ODNR Division of Natural Areas and Preserves (DNAP) have a long-term commitment to the conservation, protection, and preservation of Mentor Marsh.

*Existing Programs*

The Mentor Marsh Board of Management advises the CMNH on the management of Mentor Marsh. The Marsh Board has an educational mission to teach about the natural history of the marsh. The CMNH works with ODNR DNAP to cooperatively manage and protect Mentor Marsh State Nature Preserve.

As much as possible, the action items in this plan should be networked with existing and ongoing ecosystem and water quality protection efforts.

*Public Outreach Component*

A brochure will be developed to ensure the local community is aware of these activities and to encourage mitigation within the Mentor Marsh watershed. This brief, user-friendly brochure will identify the current tally of wetlands lost, created, restored, and preserved in the watershed. The brochure will provide a brief description of why mitigation within the Mentor Marsh watershed is more beneficial to the local environment. It will also include maps of potential mitigation projects identified in the watershed and the locations of successful existing mitigation sites that have been used to offset impacts from local developments. These brochures will be made available to the community at public places, through local government offices, and, to reach the development community, though distribution to local homebuilders' associations.

In addition, information will be distributed by posting signs in the watershed informing the public of the current tally of wetlands lost, created, restored, and preserved and by coordinating with local newspapers to print articles on this issue.

*Objective*

As development occurs throughout the Mentor Marsh watershed, loss of wetlands is inevitable. The objective of this plan is to minimize the cumulative loss of wetlands in the Mentor Marsh watershed.

**Wetlands and Biodiversity Implementation Plan 2: Biodiversity Loss / Urban (5.3.2)**

*Activity 1*

Monitor for and address future introduction and spreading of exotic species in Mentor Marsh.

*Activity 2*

Maintain and continue to update the comprehensive inventory of flora in the Mentor Marsh.

*Activity 3*

Initiate habitat restoration projects to encourage native plant communities.

*Activity 4*

Monitor target areas and project areas for success or failure.

Primary activities are focused on habitat restoration projects. The most feasible and realistic habitat restoration measures would involve working with small areas and radiating from these starting points.

Eco-management of target areas with the intent to eradicate invasive plants is an offshoot of habitat restoration. Decisions on eco-management techniques within these proposed areas are dependent on target species and habitat as well as surrounding vegetation. For example, by targeting and discouraging the growth of Phragmites, it is possible that native seed buried in the marsh will be able to germinate. Over time, a regeneration of the native plant population similar to the type of population that was present before the colonization of the invasive Phragmites could become a reality.

It should be noted that specific eco-management activities within this implementation plan might be experimental. Projects are also subject to change as new products and techniques become available. Biological control methods are a possibility of the future as are new and improved herbicides.

*Primary Coordinating Agency*

Cleveland Museum of Natural History (CMNH) and the Ohio Department of Natural Resources (ODNR) Division of Natural Areas and Preserves (DNAP) are the joint primary coordinating agencies responsible for implementing and monitoring all activities documented in this plan.

*Participating Agencies, Organizations, and Entities*

Mentor Marsh Board and volunteers from the local communities and organizations will participate in the activities for this implementation plan.

*Costs*

Herbicide cost per gallon is approximately $50. Dilution rates are most effective at an herbicide-to-diluent ratio of 3:  10. Additional costs include equipment such as sprayers, surfactants, and labor. As an example of cost, to hire an outside agency to spray a cut acre of land costs $2000. Spraying an uncut acre is $4000.

*Timeline*

Complete and permanent eradication of invasive plant species is an unrealistic expectation due to a constant influx from a variety of vectors. Control efforts must be continued annually and on a seasonal rotation. The following schedule is targeted at Phragmites, but control of other invasive species can be integrated into this type of seasonal schedule:

Winter—Cut last season's growth to prepare for spring eco-management projects.

Spring—Spray new Phragmites growth with herbicide before other vegetation emerges.

Summer—Continue herbicide applications on invasive plants and monitor project progress.

Fall—Monitor plant populations both quantitatively and qualitatively and assess the impact of eco-management efforts on floral diversity within the Marsh.

Along with a seasonal plan, target areas will be selected on a yearly basis. Beginning with small areas and expanding from them is a feasible means of accomplishing this plan. Locations of current projects are centered on the Shipman Pond and Wake Robin Trail areas. Native Phragmites has been identified near Shipman Pond. Projects centered on encouraging the growth of the native variety are being initiated in this area. Wake Robin Trail is a second target area. Physical limitations to Phragmites growth (habitat that is unable to support Phragmites) allow a starting place to encourage diverse flora to colonize.

*Existing Programs*

Native swamp white oak and Black gum trees were planted along Wake Robin Trail in the fall of 2003. This habitat restoration project was done with the anticipation of evidence that Phragmites is shade intolerant. By planting these native-wetland-favorable trees, it is hoped that the Phragmites in this general area with not be able to withstand the stress of shade. In an ongoing monitoring program, the Cleveland Museum of Natural History has found a remnant of the original swamp forest that is regenerating and shading out some of the common reed.

An example of efforts to preserve biodiversity includes vernal pool creation adjacent to Mentor Marsh in the wooded area of the State Nature Preserve.

Documenting our area's biological diversity is an ongoing activity for both CMNH and DNAP. Because of the Museum's curatorial staff, research is ongoing and wide in scope. Active areas of research include plants, amphibians, beetles, flies, and a general invertebrate survey.

Dr. Lisa Parks and her students at the University of Akron have explored ostracod species and the age of the Mentor Marsh. The most comprehensive study was published in June 2003 by Stacey Fineran in a Ph.D. dissertation at the Ohio State University.

The following is the museum's management plan for the restoration of Mentor Marsh: The Swamp Forest, Shrub Swamp and Emergent Marsh Wetlands were severely altered by the major salt kill of 1959. The wetland communities within the Mentor Marsh Basin were further harmed by the placement of tailings from the Morton Salt Mine at the mouth of Blackbrook in 1966. The former marshes dominated by greater bur-reed, shrub swamps dominated by buttonbush, winterberry, high-bush blueberry and northern arrow-wood and the swamp forests dominated by red ash, pumpkin ash, American elm, silver maple, black ash,

peach-leaf willow, eastern cottonwood and yellow birch can be restored to the marsh basin. The Museum is now working to restore the native swamp forest, shrub swamp and emergent marsh communities formerly present at Mentor Marsh because the rerouting of Black Brook channel around the salt fill in 1988 has reduced the salt concentrations in the marsh to levels low enough to allow the native vegetation to once again grow within the basin.

The Museum has conducted some trial removals of non-native reed grass along the east side of the Wake Robin boardwalk. The removal of the reed grass triggered a massive growth of native marsh species from the seed bank. Several species of sedges, rushes, bedstraws, native trees, native shrubs and greater bur-reed (*Sparganium eurycarpum*) germinated from the seed bank in 2004 after the reed grass was sprayed in 2003. No greater bur-reed was present within the reed grass dominated marsh prior to spraying. The Museum does not have herbarium records of greater bur-reed adjacent to Wake Robin areas collected 40 years ago. Common arrow-leaf (*Sagittaria latifolia*) and water smartweed (*Polygonum hydropiperoides*), two plants common at Mentor Marsh prior to the salt kill, also returned from the seed bank after the reed grass was sprayed in 2003. The native reed grass returned from the seed bank with the greater bur-reed. Umbrella sedges (*Cyperus strigosus, Cyperus odoratus, Cyperus erythrorhizos, Cyperus engelmanii*) and sedges (*Carex scoparia, Carex lurida, Carex comosa*) and annual smartweeds (Polygonum pensylvanicum, Polygonum lapathifolium) and stick-tights (Bidens cernua, Bidens tripartite) are the most abundant group that returns from the seed bank wherever non-native reed grass has been removed during recent years. One of the rare plants documented in recent years at Mentor Marsh, winged sedge (Carex alata), returned from the seed bank west of the Wake Robin Board Walk when reed grass was cleared and ponds were constructed for the Corduroy Road Mitigation Project.

Mentor Marsh is the largest peat marsh along the shoreline of Lake Erie in Ohio. Restoration of the native wetland communities present within Mentor Marsh prior to the major kill of 1959 will maintain the invertebrate fauna that is essential to the food-web of Lake Erie. Removal of the reed grass will also allow the mudflat community to return to Mentor Marsh. This community is critically important to provide food to migrating shorebirds. Fully established reed grass communities persist through the natural rise and fall of Lake Erie. The water levels of Mentor Marsh adjacent to Wake Robin Trail rise and fall in consistence with Lake Erie levels. If Greater Bur-reed marsh can be restored to the wetlands adjacent to Wake Robin Trail, the bur-reed will die back and return to the seed bank during years with high Lake Erie levels. The annual decline in the level of Lake Erie from June to August exposes mud flats where Greater Bur-reed has been removed due to a high Lake Erie level.

A small silver maple nursery has been established with seed collected from Mentor Marsh. The trees will be transplanted to Mentor Marsh when they reach three feet in height. Prior to the salt kill of 1959, the majority of the Mentor Marsh Basin was covered with Swamp Forest and Shrub Swamp. Emergent marsh communities were only present within the Shipman Pond region and the western end of the Marsh, the Wake Robin, Becker Pond Mentor Lagoons region. In addition to efforts to restore the native flora, the museum has created seventeen vernal pools for amphibian habitat.

*Public Outreach Component*

The following potential public outreach components were identified for this implementation plan:

- Enlist the assistance of volunteers for specific planting projects
- Develop tree-planting days and organize activities to attract local citizens
- Help homeowners adjacent to the Mentor Marsh to develop fire blocks

*Objective*

To develop and implement a special management program within the Mentor Marsh State Nature Preserve that protects and/or restores a diverse botanical community of native species and reduces the existing non-native species throughout the Mentor Marsh. Biodiversity loss will be addressed through habitat restoration projects.

**Wetlands and Biodiversity Implementation Plan 3: Hydromodification / Hydromodification (7.4.1), (7.4.2), (7.5.3), and (7.6.1)**

*Activity 1*

Install a check valve on the drainage ditch leading from the Grand River to Shipman Pond to prevent pollution from entering the marsh area from the Grand River and to regulate water flow. The MARC will be the lead coordinating agency for this activity. To implement this activity, further investigation is required on the processes necessary to accomplish the task. The MARC will work closely with the ODNR Division of Parks and Recreation. The MARC will assist seeking grant opportunities to fund this activity.

*Activity 2*

Educate and inform the public, both youths and adults, about the hydrology of Mentor Marsh and its impacts on the living resources of the Mentor Marsh ecosystem. The Mentor Marsh Board, CMNH, and ODNR Division of Parks and Recreation and DNAP will develop and implement educational curricula and programs to inform the public of the importance and need to protect, restore, and improve the hydrologic regime of Mentor Marsh. To efficiently address this task, these groups should work together to create curricula and programs that can be used by all groups.

*Primary Coordinating Agency*

Activity 1:

The MARC will be the primary coordinating agency responsible for overseeing this activity's implementation.

Activity 2:

The Mentor Marsh Board is the primary coordinating agency responsible for overseeing this activity's implementation.

*Participating Agencies, Organizations, and Entities*

The following Participating Agencies, Organizations, and Entities were identified: Cities of Painesville and Mentor and their respective Engineering Departments, Lake County Soil and Water Conservation District (SWCD), Ohio Department of Natural Resources (ODNR) Division of Parks and Recreation, Lake County Government, Lake County Engineer, Other Local Communities, Ohio Environmental Protection Agency (EPA),

Cleveland Museum of Natural History (CMNH), MARC, and Ohio Department of Transportation (ODOT).

*Costs*

Costs are unknown at this time.

*Timeline*

The MARC and the Mentor Marsh Board will investigate the costs associated with these activities and the tools necessary to accomplish them over the next 12 months. It is anticipated these activities could be accomplished within 18 to 36 months.

*Existing Programs*

The Mentor Marsh Board advises the CMNH on the management of Mentor Marsh. The Marsh Board has an educational mission to teach about the natural history of the marsh. The CMNH works with the ODNR DNAP to cooperatively manage and protect Mentor Marsh State Nature Preserve.

As much as possible the action items in this plan should be networked with existing and ongoing ecosystem and water quality protection efforts.

*Public Outreach Component*

To foster public support for the installation of the check valve on the drainage ditch leading from the Grand River to Shipman Pond, a series of press releases will be prepared for local news media. These press releases will chronicle the process from the initial proposal to the final task of installation of the check valve.

*Objective*

To encourage the protection of the remaining natural aspects of stream and wetlands hydrology in the Mentor Marsh watershed.

**Shoreline Management and Near Shores Issues Implementation Plan 1: Insufficient Sand Supply**

*Activity 1*

Establish sand bypass and beach nourishment requirements for the Lake Erie shoreline in Lake County. Requirements for sand bypassing, pre-filling, and beach nourishment requirements need to be put into place and strictly enforced. New sand-trapping structures should be discouraged and not permitted unless they are pre-filled with sand or other appropriate materials so that the structures do not rely solely on sand from the littoral system to perform their desired function. Model ordinances and regulations will be developed and provided to shoreline communities to be locally adopted and enforced.

*Activity 2*

Discourage placing fill material over beach and nearshore sand to prevent the burial of sand resources and permit the sand's natural flow. Encourage enforcement of existing rules and regulations established by USACE, ODNR, and local governments. Through a mail campaign, provide educational materials regarding existing rules and regulations to shoreline property owners and provide fact sheets to local governmental offices.

*Primary Coordinating Agency*

Activity 1:

The Lake County Planning Commission is the primary coordinating agency responsible for overseeing this activity's implementation.

Activity 2:

The Lake County Planning Commission is the primary coordinating agency responsible for overseeing this activity's implementation.

*Participating Agencies, Organizations, and Entities*

Additional agencies that will assist with performing these tasks and monitoring this implementation plan include USACE, ODNR, and Lake County Engineer.

*Costs*

Costs for these activities are not anticipated to exceed the costs associated with the normal review process.

*Timeline*

Over the next 18 months, model ordinances and regulations will be developed and provided to shoreline communities. Encouragement of local adoption and enforcement will occur throughout the 12 months following the initial provision of model ordinances to these communities.

*Existing Programs*

The USACE Buffalo District's Regulatory Program reviews permit applications for activities proposed in waters of the U.S. (i.e., to Lake Erie's ordinary high water elevation), and any work within the coastal area may require approval or authorization from the ODNR Coastal Management Program (CMP). Both of these programs address insufficient sand supply issues along Lake Erie's shoreline.

The Lake County Comprehensive Coastal Plan Committee has incorporated plans for shoreline protection in their recent comprehensive planning documents. The Eastern Lake County Coastal Comprehensive Plan was completed and adopted by the Lake County Planning Commission. It is anticipated other local governments will also adopt this Plan.

*Public Outreach Component*

Public comments will be sought regarding the development of the bypass and nourishment requirements. As these ordinances and regulations are developed, public meetings will be held. As communities begin adopting these ordinances, press releases will be prepared for the local media.

*Objective*

Work with the U. S. Army Corps of Engineers (USACE), the Ohio Department of Natural Resources (ODNR), and local governments to develop a sand management plan that addresses the insufficient sand supply to Lake Erie beaches.

**Shoreline Management and Near Shore Issues Implementation Plan 2: Activities Landward of the Bluff Edge**

*Activity 1*

Incorporate the Western Lake County Coastal Comprehensive Plan into other local planning agencies' comprehensive plans. This plan provides: an inventory of existing conditions; a determination by each community of those lands that need to be preserved; and development projects communities desire along the shore and the Chagrin River. Lake County Planning department will educate the communities of the benefits of this plan and assist them with incorporating the plan into their local plans.

*Activity 2*

Encourage shoreline communities to adopt the setback requirements in conjunction with ODNR OCM. Through public outreach and education, shoreline communities will be encouraged to develop regulations limiting new construction in coastal areas. In some cases, regulations may require relocating structures landward of a coastal erosion area—if possible, during reconstruction of the structure. Lake County Planning department will assist these communities in developing the regulations.

*Activity 3*

Control materials dumped on the bluffs and shoreline. Dumping of materials on the bluffs and shoreline, legally or illegally, including any filling within Lake Erie, needs to be better controlled. The inspection and enforcement process should be reviewed to ensure that illegal filling is controlled. Education and public outreach should be focused on lakefront property owners and local government officials of the shoreline communities to demonstrate how they can help control these activities using new and existing laws.

*Activity 4*

Support efforts by the ODNR OCM to increase staffing levels to facilitate proper enforcement of existing regulations. This activity consists of preparing letters to the Governor and State legislators supporting increased funding to the ODNR OCM for increased enforcement activities. Included in this should be a set-aside for educational components. A sample letter will be prepared and forwarded to interested parties by the Lake County Planning Department.

*Primary Coordinating Agency*

Activity 1:

The Lake County Planning Commission is the primary coordinating agency responsible for overseeing the implementation of these activities.

Activity 2:

The Lake County Planning Commission is the primary coordinating agency responsible for overseeing the implementation of these activities.

Activity 3:

The Lake County Planning Commission is the primary coordinating agency responsible for overseeing the implementation of these activities.

Activity 4:

The Lake County Planning Commission is the primary coordinating agency responsible for overseeing the implementation of these activities.

*Participating Agencies, Organizations, and Entities*

The following Participating Agencies, Organizations, and Entities, organizations, and entities were identified for each activity:

Activity 1: Local planning agencies.

Activity 2: Cities of Mentor-on-the-Lake, and Mentor; U. S. Army Corp of Engineers (USACE); ODNR; Ohio Environmental Protection Agency (EPA); Lake County Engineer; and the Lake County Utilities Department.

Activity 3: Lake County Planning Commission, Lake County Soil and Water Conservation District (SWCD), Ohio Sea Grant, USACE, and ODNR.

Activity 4: All local governments, SWCD, Ohio Sea Grant, and all participating groups and agencies.

*Costs*

The total cost to develop the Western Lake County Coastal Comprehensive Plan is $123,134. Fifty percent of the total cost is funded by federal coastal funds and the remaining costs are provided by non-federal funds.

Costs for the other activities are directly related to the time and effort necessary to develop and adopt new regulations.

Cost for item three will be based on the time and materials needed to develop educational materials for distribution to land owners and public officials as well as the efforts necessary to provide policing of the shoreline.

*Timeline*

It will take up to 12 months to incorporate the Western Lake County Coastal Comprehensive Plan into other local comprehensive plans.

Timing of this element is dependent on the time necessary to develop and adopt regulations in the various communities, provided they are amenable, to regulate activity within the Coastal Erosion Area (CEA). This effort will need to be ongoing because of possible changes in the law and new technology in the future.

*Existing Programs*

Activity 1: ODNR provides financial aid through the Coastal Management Assistance Grant Program to help local communities and local and regional planning agencies.

Activity 2: ODNR has guidelines and models that can be used to assist local communities.

Activity 3: ODNR, Ohio EPA, and USACE have permitting, leasing, and licensing requirements and are willing to investigate illegal activities along the shoreline when citizens and public officials request it.

Activity 4: At this time, no existing programs are known.

*Public Outreach Component*

Informational materials will be developed on illegal dumping and shoreline stabilization requirements. Materials will be distributed to the public through a mailing to shoreline property owners, posting at public places, and at local governmental offices. In addition, a press release regarding illegal dumping and shoreline stabilization will be prepared for distribution to local media.

*Objective*

To reduce the effects of land-based activities on the shoreline.

**Land Use and Economic Development Implementation Plan 1: Provide for Coordinated Land Use Planning / Urban (5.3.3), (5.6.1), (5.6.2), (5.8.1), (5.8.2), Hydromodification (7.4.1), (7.4.2), (7.5.3), (7.6.1)**

*Activity 1*

Work with all governmental jurisdictions to provide storm water detention and limit impervious surfaces. Work with the engineers of each municipality and the county engineer to obtain and require the use of best management practices for stormwater and development.

*Activity 2*

Provide model regulations for conservation-style developments. Provide copies of the Countryside Program Conservation Development Regulations and assist each jurisdiction to adapt the regulations for their community.

*Activity 3*

Encourage adoption of sedimentation and erosion control regulation in the political jurisdictions that do not have them. Some communities in the Mentor Marsh Area SAMP Study area have not adopted these requirements. Every effort needs to be made by the MARC, the County Engineer, Soil and Water Conservation District, and the County Planning Commission to show the advantages of such regulations and encourage their adoption where they have not been adopted.

*Activity 4*

Provide model regulations for stream, riparian, and wetland setbacks. Provide local governments with copies of model regulations for the preservation of streams, riparian areas, and wetlands and assist them in adapting the regulations to their community. The Chagrin River Watershed Partners model regulations can provide a good local source of such regulations.

*Activity 5*

Establish a unified vision for the areas adjacent to and in close proximity to the Mentor Marsh. A coordinating association will be organized representing major landowners of the Mentor Marsh and properties adjacent to the Marsh. This association will establish a vision and plan for the use of the Marsh. The focus of this plan is to provide the best access to the Marsh without damaging it further.

*Activity 6*

Assist local regulatory jurisdictions to develop and enact the necessary regulations to bring the vision for the Mentor Marsh to a reality. The MARC and other agencies need to

help develop new or redesign existing regulations to ensure the protection and proper development both in and around the marsh. Identifying new methods of regulatory control and adapting them to local needs will accomplish this task. The MARC members can provide this valuable service based on their areas of expertise.

*Activity 7*

Work with municipalities adjacent to the Mentor Marsh to establish a buffer or setback requirement for new construction. Offer incentives to developers and/or establish an outright requirement to set aside land adjacent to the Mentor Marsh to protect it from encroachment and lessen the impacts of development. Existing public entities could be receivers of any conservation easements used to provide buffers or setbacks.

*Activity 8*

Work with municipalities within the Mentor Marsh Watershed to adopt ODOT's "Handbook for Sediment and Erosion Control". This document contains procedures approved under the Ohio Coastal Non-Point Pollution Control Plan for erosion and sediment control on local road, highway, and bridge projects.

*Primary Coordinating Agency*

Activity 1:

The Lake County Planning Commission is the primary coordinating agency responsible for overseeing the implementation of these activities.

Activity 2:

The Lake County Planning Commission is the primary coordinating agency responsible for overseeing the implementation of these activities.

Activity 3:

The Lake County Planning Commission is the primary coordinating agency responsible for overseeing the implementation of these activities.

Activity 4:

The Lake County Planning Commission is the primary coordinating agency responsible for overseeing the implementation of these activities.

Activity 5:

The Lake County Planning Commission is the primary coordinating agency responsible for overseeing the implementation of these activities.

Activity 6:

The Lake County Planning Commission is the primary coordinating agency responsible for overseeing the implementation of these activities.

Activity 7:

The Lake County Planning Commission is the primary coordinating agency responsible for overseeing the implementation of these activities.

Activity 8:

The Lake County Planning Commission is the primary coordinating agency responsible for overseeing the implementation of these activities.

*Participating Agencies, Organizations, and Entities*

Primary Participating Agencies, Organizations, and Entities include the planning, development, and/or zoning departments of the following political jurisdictions: Cities of Mentor, Mentor-on-the-Lake, and Painesville; Villages of Grand River and Fairport Harbor; Painesville and Concord Townships; and Lake County.

Secondary Participating Agencies, Organizations, and Entities that will provide support to the above-listed political jurisdictions include: Ohio Department of Natural Resources (ODNR), Cleveland Museum of Natural History (CMNH), Mentor Marsh Board, and Lake County Utilities Department.

*Costs*

Cost is established by the time the Participating Agencies, Organizations, and Entities will spend in developing the vision and enacting the regulations necessary to make the vision a reality. Cost will also be associated with the purchase of land or conservation easements if such action is determined to be the most appropriate means of protection for the Mentor Marsh. No specific costs were identified.

*Timeline*

These activities will be accomplished over the next one to three years.

*Existing Programs*

Several organizations can help in accomplishing these activities; these include: The Western Reserve Resource Conservation and Development Council's Countryside Program regarding conservation subdivision regulations; The Chagrin River Watershed Partners covering stream, riparian, and wetland setbacks; and the Ohio State University Cooperative Extension Program, the Sea Grant Program, and the Lake County Planning Commission for general research and assistance.

Each political subdivision in the Mentor Mash watershed has adopted comprehensive land-use plans. Every effort should be made to coordinate these activities with the local land-use plans or encourage the local community to amend their plan to incorporate the MARC's vision statement.

Several organizations provide funding for purchase of land necessary to protect the Mentor Marsh area and watershed including: ODNR Office of Coastal Management (OCM) through Coastal Management Assistance Grants; Lake Erie Commission grants; and U. S. EPA Section 319 grants. Several private organizations such as The Foundation, located in Cleveland, also provide funding for land purchases. Additional private funding opportunities should be investigated.

<u>Home Sewage Treatment Systems (HSTS)</u>

No implementation Plan was developed for HSTS plans during the development of the SAMP. However, existing programs in place in the watershed adequately address the issue. The following is a summary of the HSTS plan for the watershed prepared by the LCGHD for all new HSTS :

The Lake County General Health District (LCGHD) manages home sewage treatment systems (HSTS) and Semi Public Sewage Treatment Systems in Lake County. These programs involve activities such as site evaluation, design, plan review, installation inspection, and operation and maintenance of household and semi public systems. As a result of a local survey and the NOACA Seven County Sewage Survey documenting the significant causes of system failure such as slowly permeable soils, seasonal high water tables, hydraulic overload of system design, system age and lack of routine maintenance, LCGHD developed a HSTS Improvement Plan.

The HSTS Improvement Plan included key components as follows:

- Consultation with experts to investigate alternative system designs
- Development of alternative system design criteria (drip distribution & mounds) with Ohio Department of Health approval for use in Lake County
- Disclosure notices required for trench type sewage systems in severe soils indicating potential risk of failure

Table 27. HSTS Summary

| **Community** | **HSTS Summary** |
|---|---|
| Mentor | Predominantly served with sanitary sewers, except for small areas along Lakeshore Blvd. |
| Grand River | Predominantly served with sanitary sewers. |
| Painesville Township | Predominantly served with sanitary sewers. |
| Mentor on the Lake | Predominantly served with sanitary sewers, one sewage system in watershed. |

The LCGHD HSTS plan is currently being updated as a sewage treatment program goal. This will enable LCGHD to establish a Linked Deposit Loan Program through Ohio EPA's Water Pollution Control Loan fund. The linked deposit loan program will be used to financially assist homeowners with the replacement of residential sewage treatment systems that are malfunctioning and for the connection to sanitary sewers. Currently the LCGHD is actively participating in the process of revising Ohio's Sewage Treatment Rules that are being updated in accordance with provisions of House Bill 231 (Ohio's new sewage law) effective as of May 1, 2005. The Revision of the Ohio Sewage Treatment Code will lead to OEPA establishing a General NPDES permit program for discharging HSTS. Another LCGHD program goal is to successfully implement the new ODH HSTS and Small Flow Onsite Sewage Treatment System (SFOSTS) Rules when they become effective.

TABLE 28. Lake County Household Sewage Treatment System Summary in Mentor Marsh Watershed*

| COMMUNITY | TOTAL HSTS PER COMMUNITY | TOTAL OFFLOT DISCHARGE | TOTAL SOIL ABSORPTION | TOTAL DRIP DISTRIBUTION | TOTAL MOUNDS |
|---|---|---|---|---|---|
| MENTOR ON THE LAKE | 1 | 0 | 1 | 0 | 0 |
| GRAND RIVER | 0 | 0 | 0 | 0 | 0 |
| PAINESVILLE TOWNSHIP | 0 | 0 | 0 | 0 | 0 |
| MENTOR | 322 | 0 | 322 | 0 | 0 |

**Operation, Maintenance & Inspection**

Since 1988, The Lake County General Health District requires bi-annual inspections of sewage systems in all newly established subdivisions. Homeowners, through deed restrictions, must contract privately from a list of subdivision "qualified" HSTS inspectors. HSTS inspectors must pass a test at the health district to qualify to inspect these systems. The Homeowners Association is also required to ensure that routine maintenance, such as tank pumping, and minor repairs are completed. A copy of the inspection report is sent to the Homeowner's Association of the subdivision, the homeowner, and the health district. LCGHD tracks and ensures compliance with the requirements. There is also an existing service requirement for drip distribution systems, which are inspected annually through individual contracts with the service providers. Currently LCGHD offers a voluntary Point of Sale (POS) sewage system inspection program. Buyers, sellers, lenders and realtors can request the inspections from the Health District for a fee. If a system is found to be malfunctioning after the inspection is completed by a registered sanitarian they are required to remedy the problem. The homeowner must sign an application form that acknowledges this repair/replacement requirement. Approximately 200-300 POS inspections are done annually.

**Education**

Training is offered through the Lake County General Health District to installers, designers and soil specialists who work on the process of installing HSTS and Semi Public Sewage Treatment systems. Some training is mandatory to qualify individuals in certain areas, while some training is offered on a voluntary basis. In may areas of the county, sewage system operational surveys have been conducted to determine overall system function as well as water quality impacts and more are planned for the future. In these areas, public meetings are held for citizens and elected public officials in the community to summarize findings and make recommendations on options available for abating nuisance conditions and improving water quality.

**Illicit discharge detection and elimination**

As part of NPDES Storm Water Phase II Final Rule LCGHD has contracted with various communities and public entities to offer services such as: locating and screening of outfalls, water quality testing, illicit discharge detection & elimination, and storm water education. The first permit term ends, March 2008, and is significant operators of regulated small MS4s will have to fully implement their storm water management programs.

As of December 2004, sixteen (16) illicit discharges have been detected and eight (8) have been eliminated throughout Lake County, with a significant amount located in the Chagrin River watershed. Most illicit discharges have been attributed to malfunctioning septic systems and laundry wastewater discharge into ravines, ditches that eventually make their way to a stream or river.

An illicit discharge self-inspection form has been developed for local service departments to utilize as a means of making a comprehensive inventory of their interior and exterior building premises. With self-inspection, LCGHD can assist their departments in correcting illicit discharges to the storm drainage system. This should be completed by June 2005 and hopefully the form will then be used in other business settings as a tool in locating illicit discharges in business areas. LCGHD has contracted with all delineated communities except Eastlake, Perry Township and Madison Village to conduct illicit discharge services (screening/sampling, detection & elimination) in those communities.

The Health District is in the process of developing a Model Point of Sale Ordinance for Homes with Household Sewage Treatment Systems. This ordinance could be used as a Best Management Practice (BMP) tool, in the municipal storm water system as part of the Phase II storm water management program.

**HB 110 Program**

LCGHD has had an active Semi Public Sewage Program since the inception of House Bill 110. The Health District has effectively maintained a contract with Ohio EPA to inspect the semi public systems of less than 25,000 gpd at regular frequencies. Program goals for 2005 are to locate any remaining semi public systems currently not in the 110 inspection program and take necessary steps to include them and to initiate an internal inspection of business operations, utilizing dye testing for the onsite systems during the routine inspections of those systems.

Table 29. Lake County Semi-Public Treatment System Summary

| COMMUNITY | TOTAL | DISCHARGE | NON -DISCHARGE |
|---|---|---|---|
| GRAND RIVER | 0 | 0 | 0 |
| PAINESVILLE | 0 | 0 | 0 |
| MENTOR ON THE LAKE | 0 | 0 | 0 |
| MENTOR | 3 | 0 | 3 |

*Lake County General Health District.

The Ohio Coastal Nonpoint Pollution Control Program management measure for existing HSTS is not applicable to the Mentor Marsh

Watershed because the existing HSTS are in an area where density is less than 1 per 20-acres.

Stormwater Management and NPDES Phase II

In addition to the efforts of the MARC to address stormwater issues, the entire watershed every community within the watershed is participating in the NPDES Phase II program. The Lake County Stormwater Management District (LCSMD) was formed in 2004 to address Phase II issues and fulfills the requirements as outlined below for Mentor-On-The-Lake, Painesville City, Painesville Twp, Concord Twp, and the Village of Grand River. The following is a summary of the NPDES Phase II program in Lake County, prepared by the LCSMD:

The LCSMD and it's Partners agree to provide the following services to the Mentor-On-The-Lake, Village of Grand River, Painesville Township, and Concord Township (herein referred to as "Partners") related to the requirements of their NPDES permit number 3GQ00068*AG:

**Minimum Control Measure #1 and #2 – Public Education and Outreach and Public Involvement and Participation**

- Develop and distribute newsletter addressing stormwater pollution.
- Make newsletter and other educational publications available on the LCSMD website.
- Develop and implement a mass media program.
- Make educational materials from partner agencies available in public places throughout drainage district.
- Conduct or make available at least three stormwater management workshops annually during permit period for developers, public employees and private groups.
- Prepare community specific stormwater presentations when requested.
- Prepare educational workshop on water quality impacts from illicit discharges for homeowners and small businesses in member LCSMD communities.
- Work with the City to identify target areas for catch basin and stormwater discharge (outfall) labeling program.
- Advertise storm sewer labeling program on LCSMD website and in at least one LCSWCD publication per year.
- Lead storm sewer labeling program.
- Involve local students in stream monitoring program each year.
- Lead annual stream cleanup workdays on major streams.

- Advertise annual stream clean up events on stormwater website and in stormwater newsletter.
- Install stream crossing signs and advertise for public sponsorship.

**Minimum Control Measure #3 – Illicit Discharge Detection and Elimination**

- Complete a drainage district storm sewer system map.
- Develop a list of all home sewage treatment systems connected to the municipal separated sewage system (MS4) within Partner's boundaries.
- Locate all outfalls on storm sewer system map.
- Develop a regulation to prohibit illicit discharges to the MS4 and authorize access for inspection.
- Visually screen and if required test 20 percent of known outfalls annually. Water quality testing includes sampling for fecal coliform, nutrients, heavy metals, oil and grease and total dissolved solids as needed based on indicators resulting from visual screening.
- Initiate process to remove 25 percent of known illicit discharges during each permitting period utilizing regulatory / enforcement mechanisms based on prioritized problem areas determined by water quality and quantity of flow at outfalls.
- Assist with the elimination of 5 percent of known illicit discharges during each permitting period.
- Consider adopting point of sale inspection ordinance and adopt if appropriate.
- Develop and distribute susceptible businesses stormwater management guide.

**Minimum Control Measure #4 – Construction Site Stormwater Runoff Control**

- Development of erosion and sediment control regulations.
- Establish procedures to accept and consider public comments concerning construction sites.
- Document public comments and take appropriate action.
- Provide at least two workshops per year to educate developers, builders and installers on how to comply with erosion and sediment control rules.
- Review stormwater management plans for development and redevelopment projects in Lake County and participating Level 2 communities.
- Inspect active construction sites for Lake County and participating Level 2 communities. The frequency of inspections may vary but subdivisions will be visited at least once every two weeks.

Individual lots will be inspected a minimum of once per month during the construction period.

- Pursue injunctions to abate violations.

**Minimum Control Measure #5 – Post Construction Stormwater Runoff Control on New Development and Redevelopment**

- Develop a riparian and wetland setback regulation.
- Develop model stormwater management rules and regulations.
- Work to have development and redevelopment projects include structural best-management practices (BMPs) in the project plans
- Conduct a post-construction site visit immediately after completion of the project for Lake County and participating Level 2 communities to ensure that stormwater management controls have been properly installed.
- Conduct a six month post-construction site visit to ensure all stormwater management controls are operating effectively.

**Minimum Control Measure #6 – Good Housekeeping and Pollution Prevention**

- Develop employee training program for the Partners.
- Distribute training program or directly train the Partners for all employees involved in construction and maintenance activities.
- Clean and maintain all regional MS4 facilities (storm sewers, culverts, detention basins, ditches, etc.) on a five year cycle or more frequently when needed within the Partner's jurisdictions.
- Work with the Partners to develop a street sweeping program based on traffic and environmentally sensitive areas.
- Purchase street sweeper.
- Regularly sweep County owned curbed roads at least every other month during good weather.
- Work with the Partners to develop a road salting program that meets NPDES Phase II requirements.

**Administration, Regulation and Enforcement**

- Provide interagency and intercommunity coordination services.
- Act as liaison for regulatory agencies to ensure fulfillment of all permit requirements.
- Ensure the Partners are informed of regulatory issues.
- Prepare and submit all regulatory compliance reports including information on County and Partner's drainage systems.

**Finance**

- Prepare and distribute all bills for individual property parcels based on amount of impervious area on each parcel in proportion to the

equivalent residential unit (ERU) set at 3,050 square feet by resolution of the Lake County Board of Commissioners.

- Actively seek grant and low interest loan funding for stormwater projects located within the LCSMD drainage district dealing with public education, public involvement, illicit discharge detection and employee training.
- Prepare cooperative agreements between LCSMD and partner organizations and member communities.
- Conduct all budgeting and accounting for LCSMD.
- Provide the Partners with an annual accounting of LCSMD funds and general work activities in the form of an annual report.

**Data Collection and Management**

- Maintain base mapping and property records for regional stormwater system.
- Conduct stream sampling and habitat surveys as necessary.

**Planning, Design and Construction of Regional Drainage Systems**

- Conduct planning program for those regional stormwater systems within the Partner's jurisdiction including hydrologic and hydraulic studies, water quality studies and watershed planning.
- Conduct rain and flow monitoring and evaluation projects on those regional stormwater systems within the Partner's jurisdiction.
- Prepare floodplain map revisions for areas within the Partner's jurisdiction.
- Prepare and fund a capital program for the construction and repair of regional stormwater infrastructure based on priority of needs.

**Operations and Maintenance**

- Be responsible for all operational and maintenance activities related to the regional stormwater system. System includes streams, culverts, bridges, stream banks and channels, storm sewers, inlets and catch basins, and detention and infiltration facilities.
- The LCSMD and Partner's will meet every tow years to update the regional stormwater system map.

**Duties of the Partners**

The Partners agrees to provide the following services related to the LCSMD NPDES stormwater permit:

**Minimum Control Measure #1 and #2 – Public Education and Outreach and Public Involvement and Participation**

- Provide LCSMD with information regarding any additional public education and outreach and public involvement and participation efforts beyond those performed by LCSMD annually.

**Minimum Control Measure #3 – Illicit Discharge Detection and Elimination**

- Provide LCSMD with storm sewer mapping information.
- Adopt resolution/ordinance to prohibit illicit discharges to the MS4s and authorize access for inspection.
- Initiate process to remove 25 percent of known illicit discharges during each permitting period utilizing regulatory / enforcement mechanisms based on prioritized problem areas determined by water quality and quantity of flow at outfalls.
- Assist with the elimination of 5 percent of known illicit discharges during each permitting period.

**Minimum Control Measure #4 – Construction Site Stormwater Runoff Control**

- Adopt erosion and sediment control ordinance covering soil disturbing activities greater than one acre.
- Issue verbal and/or written stop work orders for violations of erosion and sediment control rules.
- Complete timely and appropriate legal action to pursue injunctions to abate violations.

**Minimum Control Measure #5 – Post Construction Stormwater Runoff Control on New Development and Redevelopment**

- Adopt a riparian and wetland setback resolutions / ordinances.
- Assist with the development of stormwater management rules and regulations.
- Adopt stormwater management rules and regulations.
- Ensure new developments include structural best management-practices to reduce the impacts of stormwater.

**Minimum Control Measure #6 – Good Housekeeping and Pollution Prevention**

- Assist LCSMD by making employees available for the County sponsored employee training program and/or use LCSMD prepared materials to train all the Partner's maintenance and construction employees.
- Develop comprehensive vehicle maintenance program.

- Inspect and maintain vehicles at least twice per year.
- Install oil separators at maintenance facilities.
- Wash equipment in locations that drain to oil separators or other approved treatment system.
- Implement cleaning and maintenance program for local storm sewer systems on a five year cycle, or more frequently where needed. The storm sewer system includes storm sewers, culverts, detention basins, and ditches.
- Regularly sweep locally owned curbed roads at lest once per year during good weather.
- Ensure road salt is stored in covered bins and that runoff is captured and treated.
- Ensure that the road salting program meets NPDES Phase II requirements.

**Reporting**

- Provide annual documentation in a form deemed acceptable by LCSMD for inclusion in the regulatory report for Partner's work associated with the six minimum controls.

**LEVEL 1 (MODIFIED) COMMUNITY – Painesville**

The LCSMD and it's partners agree to provide the following services to the City related to the requirements of their NPDES permit number 3GQ00068*AG:

**Minimum Control Measure #1 and #2 – Public Education and Outreach and Public Involvement and Participation**

- Develop and distribute newsletter addressing stormwater pollution.
- Make newsletter and other educational publications available on the LCSMD website.
- Develop and implement a mass media program.
- Make educational materials from partner agencies available in public places throughout drainage district.
- Conduct or make available at least three stormwater management workshops annually during permit period for developers, public employees and private groups.
- Prepare community specific stormwater presentations when requested.

- Prepare educational workshop on water quality impacts from illicit discharges for homeowners and small businesses in member LCSMD communities.
- Work with the City to identify target areas for catch basin and stormwater discharge (outfall) labeling program.
- Advertise storm sewer labeling program on LCSMD website and in at least one LCSWCD publication per year.
- Involve local students in stream monitoring program each year.
- Lead annual stream cleanup workdays on major streams.
- Advertise annual stream clean up events on stormwater website and in stormwater newsletter.
- Install stream crossing signs and advertise for public sponsorship.

**Minimum Control Measure #3 – Illicit Discharge Detection and Elimination**

- Complete a drainage district storm sewer system map.
- Develop a list of all home sewage treatment systems connected to the municipal separated sewage system (MS4) within City boundaries.
- Locate all outfalls on storm sewer system map.
- Develop a regulation to prohibit illicit discharges to the MS4 and authorize access for inspection.
- Visually screen and if required test 20 percent of known outfalls annually. Water quality testing includes sampling for fecal coliform, nutrients, heavy metals, oil and grease and total dissolved solids as needed based on indicators resulting from visual screening.
- Initiate process to remove 25 percent of known illicit discharges during each permitting period utilizing regulatory / enforcement mechanisms based on prioritized problem areas determined by water quality and quantity of flow at outfalls.
- Assist with the elimination of 5 percent of known illicit discharges during each permitting period.
- Develop a point of sale inspection ordinance.
- Develop and distribute susceptible businesses stormwater management guide.

**Minimum Control Measure #6 – Good Housekeeping and Pollution Prevention**

- Develop employee training program for the City.

- Distribute training program and/or directly train City employees involved in stormwater related construction and maintenance activities.

**Administration, Regulation and Enforcement**

- Provide interagency and intercommunity coordination services.
- Act as liaison for regulatory agencies to ensure fulfillment of all permit requirements and other regulating issues related to surface water quality.
- Ensure the City is informed of regulatory issues.
- Prepare and submit all regulatory compliance reports including information on County and City drainage systems as required by the NPDES permit.

**Finance**

- Actively seek grant and low interest loan funding for stormwater projects located within the LCSMD drainage district dealing with public education, public involvement, illicit discharge detection and employee training.
- Conduct all budgeting and accounting for LCSMD.
- Provide the City with an annual accounting of LCSMD funds and general work activities in the form of an annual report.

**Duties of the City**

- The City agrees to provide the following services related to the LCSMD NPDES stormwater permit:

**Minimum Control Measure #1 and #2 – Public Education and Outreach and Public Involvement and Participation**

- Provide LCSMD with information regarding any additional public education and outreach and public involvement and participation efforts beyond those performed by LCSMD annually.

**Minimum Control Measure #3 – Illicit Discharge Detection and Elimination**

- Provide LCSMD with storm sewer mapping information
- Adopt resolution/ordinance to prohibit illicit discharges to the MS4s and authorize access for inspection.
- Initiate process to remove 25 percent of known illicit discharges during each permitting period utilizing regulatory / enforcement

mechanisms based on prioritized problem areas determined by water quality and quantity of flow at outfalls.

- Assist with the elimination of 5 percent of known illicit discharges during each permitting period.

**Reporting**

- Provide annual documentation in a form deemed acceptable by LCSMD for inclusion in the regulatory report for City work associated with the six minimum controls.
- The City agrees to provide such additional services not specifically referred to in this MOU as may be reasonably requested by LCSMD.

The City of Mentor chose to pursue an individual permit (3GQ00034*AG). The City also performs the 6 minimum control measures as required by the Phase II program. The following summary provided by the City of Mentor details their NPDES Phase II program:

**Minimum Control Measure #1 and #2 – Public Education and Outreach and Public Involvement and Participation**

- Implement the storm water help desk developed in 2003 and maintain it throughout the permit term.
- Develop new flyers that will be sent to residents and businesses.
- Provide information throughout the permit term on watershed topics including:
  Water quality including the impact of suburban activities, illegal discharges, and improper disposal of wastes;
  Disposal of household hazardous wastes;
  Erosion and sediment control for small projects;
  Low polluting lawn fertilizing, care and maintenance;
  Management for back yard streams, swales, and ditches;
  Features on educational activities in community schools;
  Septic operation and maintenance.

**Minimum Control Measure #3 – Illicit Discharge Detection and Elimination**

- Map storm sewer system with:
  Location of outfalls by 2005;
  Names and location of surface waters to which outfalls discharge by end of 2007;
  Locations of discharging HSTS by end of 2007;
  Type and size of conduits through which HSTS discharge by end of 2007.
- Inventory discharging HSTS connected to municipal storm sewer system. Locate HSTS and develop list by the end of 2007.
- Develop a program to proactively determine if there are dry weather flows in the storm sewer system, the source of these flows,

and possible methods to eliminate their sources. Program to be implemented in 2003 and refined throughout the permit term. Outfalls to be observed at least once during the initial permit period.

- Consider a point of sale ordinance that will require inspections of house connections at time of sale of existing homes. Review ordinance in 2005.
- Develop informational flyers for the boating public regarding marina pump out facilities and correct operating procedures by the end of 2003. Distribute to the marina by the end of 2004.
- Adopt an ordinance prohibiting illicit discharges by the end of 2005.

**Construction Site Storm Water Runoff Control MCM #4**

- Upgrade erosion and sediment control ordinance. Review model ordinance and upgrade existing erosion and sediment control ordinance if necessary by the end of 2003.
- Provide opportunity for City staff to attend training sessions annually.
- Review site plans of construction sites prior to granting permits. Review of site plans to occur throughout the term of the permit.
- Inspect active sites. Continue inspections throughout the permit term.
- Enforcement Actions: When inspection reveals that work is not proceeding in accordance with approved E&SC plans, the City may issue a stop work order halting construction, or take other enforcement action until problems are corrected. Enforcement actions will take place as necessary throughout the permit term.
- Respond to public complaints regarding construction activities: In addition to regular inspections of active construction sites, the City will advertise through the website a phone number for residents concerned about specific construction activities. Phone number to be established in 2003 and remain active throughout the permit term.

**Post Construction Storm Water Management MCM #5**

- Provide workshops for Development Community: Workshops for landowners, builders, developers, and community officials on storm water management in 2003 and on going.
- Explore adopting ordinances allowing interested landowners the option of maintaining open space to control storm water runoff. Begin review of BMP in 2004 and determine applicability by the end of 2005.
- Retention and detention pond maintenance: Summarize current policy and communicate to homeowner associations. Develop

methods to ensure proper operation and maintenance in 2004. Implement O&M methods in 2005-2007.

- Riparian and wetland setbacks: Explore adopting ordinances creating setbacks from certain watercourses and wetlands. Begin review of BMP in 2004. Determine applicability of BMP by end of 2005.
- Open Space Preservation: Maintain existing open space. Encourage additional open space as part of development.
- Storm water management ordinance: review storm water management ordinance in 2003 for adoption in 2004. This ordinance includes provisions for both new development and redevelopment activities.

**Good Housekeeping and Pollution Prevention MCM #6**

- Community Operations: Develop an operation and maintenance program to prevent or reduce storm water pollution from community operations in 2003. Implement program in 2004. Continue program through the permit term.
- City Staff Education: Develop program for City staff education on pollution prevention in 2003. Implement the program in 2004. Continue the program through the permit term. Two supervisors will be sent to a training program per year.
- Catch Basin Cleaning: Develop a program in 2003 to clean 100 catch basins every year including a portion of the storm line draining to the basins. Implement the program in 2004. Continue the program through the permit term.
- Implement a storm drain stenciling program in 2004. Stencil 50 storm drains annually beginning in 2004 and continue throughout the permit term.
- Street Sweeping: Develop a program in 2003 to sweep streets monthly weather permitting or as needed. Continue the program through the permit term.
- Salt Storage and Application: Continue current salt storage and application procedures. Follow International Salt Institute Guidelines. Provide City staff a department policy manual. Store salt under roof and record usage. Review salt application/storage for pollution prevention options throughout the permit term.
- Ditch Maintenance: Clean ditches and cut back slopes to minimize erosion potential. Seed new and cleaned ditches as soon as work is completed. Continue current ditch maintenance program throughout permit term.
- Fleet Maintenance: Drain oil and antifreeze from equipment into drain pans and transfer them an aboveground tank under roof. Recycle used antifreeze and used motor oil and properly dispose of them. Continue existing fleet maintenance operations and review

fleet maintenance operations for pollution prevention options throughout the permit term.

- Hazardous Material Response: Respond to releases to the environment and monitor clean up to minimize impact to watercourses. Continue existing hazardous material response. Review hazardous material response each year throughout permit term.
- Chemical Lawn Care Use: Minimize use of chemicals on public areas to reduce chemical runoff. Review chemical use on public areas. Continue this practice throughout the permit term.
- Disposal of Waste Collected through City Operations: Store paint and other chemicals under roof and dispose of containers properly. The service department has a dumpster for trash. A waste hauling company maintains the container at the City's request. Road kill is properly disposed. Continue current waste disposal activities throughout the permit term. Review waste disposal for pollution prevention.

Erosion and Sediment Control

With the implementation of Phase II of the NPDES Permit of the Clean Water act in March of 2003, all communities in the Mentor Marsh Watershed were require to implement a local erosion and sediment control (ESC) program to address sedimentation issue stemming from all construction activities greater than one acre in size. Since 2003, each Mentor Marsh community has addressed these issues in different ways. The following is a summary of the ESC programs for each community:

**The City of Mentor**

The City of Mentor adopted an erosion and sediment control ordinance (No. 04-O-05, Chapter 158) on March 25th of 2005 with the assistance and review of the Lake SWCD and the Chagrin River Watershed Partners. The program requires ESC plan review for projects one (1) acre or greater with permitting from all other state and federal agencies as a prerequisite to soil disturbing activities. This program is administered by the Mentor City Engineer with oversight and yearly contractor works shops provided by the Lake SWCD. The Lake SWCD and the City have a signed mutual agreement outlining each party's responsibilities with respect to erosion and sediment control as well as other natural resource issues.

**The City of Mentor-on-the-Lake**

The City of Mentor-on-the-Lake adopted an erosion and sediment control ordinance (No. 2004-O-20, Chapter 1288) in December of 2004 with the assistance and review of the Lake SWCD and the Chagrin River Watershed Partners. The program requires ESC plan review for projects one (1) acre or greater and all individual homesites. Permitting from all other state and federal agencies is a prerequisite to soil disturbing activities. This program is administered by the Lake SWCD with oversight and yearly contractor works shops provided by the Lake SWCD. The

Lake SWCD and the City have a signed mutual agreement outlining each party's responsibilities with respect to erosion and sediment control as well as other natural resource issues.

**The City of Painesville**

The City of Painesville has yet to adopt an Erosion and Sediment Control Ordinance that is complaint with the criteria set forth under Phase II of the NPDES permit of the Clean Water Act. The City has in the past had discussions with the Lake SWCD concerning the adoption of the Chagrin River Watershed Model ESC Ordinance but has yet to adopt any current regulations or sign a mutual agreement with the Lake SWCD. The Painesville City Engineer currently handles all erosion and sediment control and natural resource issues for the City.

**The Village of Grand River**

The Village of Grand River adopted an erosion and sediment control ordinance (No. 2004-136, Chapter 1) on December 29, 2004 with the assistance and review of the Lake SWCD and the Chagrin River Watershed Partners. The program requires ESC plan review for projects one (1) acre or greater and all individual homesites. Permitting from all other state and federal agencies is a prerequisite to soil disturbing activities. This program is administered by the Lake SWCD with oversight and yearly contractor works shops provided by the Lake SWCD. The Lake SWCD and the Village have a signed mutual agreement outlining each party's responsibilities with respect to erosion and sediment control as well as other natural resource issues.

**Painesville Township**

Painesville Township operates under the Lake County Erosion and Sediment Control Regulations, which were revised October 24th, 2005 by the County Commissioners Office with the assistance and review of the Lake SWCD, The Lake County Prosecutor, and the Chagrin River Watershed Partners. The program requires ESC plan review for projects one (1) acre or greater and all individual homesites. Permitting from all other state and federal agencies is a prerequisite to soil disturbing activities. This program is administered by the Lake SWCD with oversight and yearly contractor works shops provided by the Lake SWCD. The Lake SWCD and the Lake County Commissioners have a signed mutual agreement outlining each party's responsibilities with respect to erosion and sediment control as well as other natural resource issues.

**Concord Township**

Concord Township operates under the Lake County Erosion and Sediment Control Regulations, which were revised October 24th, 2005 by the County Commissioners Office with the assistance and review of the Lake SWCD, The Lake County Prosecutor, and the Chagrin River Watershed Partners. The program requires ESC plan review for projects one (1) acre or greater and all individual homesites. Permitting from all other state and federal agencies is a prerequisite to soil disturbing activities. This program

is administered by the Lake SWCD with oversight and yearly contractor works shops provided by the Lake SWCD. The Lake SWCD and the Lake County Commissioners have a signed mutual agreement outlining each party's responsibilities with respect to erosion and sediment control as well as other natural resource issues.

Riparian and Wetland Setbacks

With the advent of Phase II of the NPDES Permit of the Clean Water Act in March of 2003 many Mentor Marsh communities have begun to realize the importance of adopting riparian setback language for the purpose of water quality, flood control, and wildlife habitat needs The following is a summary of the riparian setback programs for each community in the Mentor Marsh Watershed:

**The City of Mentor-on-the-Lake**

The City of Mentor-on-the-Lake adopted a riparian setback ordinance (No. 2004-O-21, Chapter 1286) in December of 2004 with the assistance and review of the Lake SWCD and the Chagrin River Watershed Partners. The program works through current zoning regulations and requires the following minimum setbacks for streams having a defined bed and bank:

- A minimum of 25' setback feet for all streams draining an area less than ½ square mile
- A minimum of 75' setback for all streams draining an area between ½ and 20 miles
- A minimum of 120' setback for all streams draining an area greater than 20 square miles

These setbacks pertain to new and/or proposed structures, parking lots, roads & driveways, walls & fences, and sanitary facilities. The extent is defined by the above parameters and extended to the outer most limits of designated 100-year floodplains and any hydrologically connected riparian wetlands that may occur. These regulations also outline conditional uses within these areas such as crossings, stream bank stabilizations projects, stormwater detention facilities, and landscaping.

**The City of Mentor**

The City of Mentor does not currently have regulations that speak specifically to riparian setbacks other than the final stabilization language covered in their erosion and sediment control ordinance.

**The City of Painesville**

The City of Painesville does not currently have regulations that speak specifically to riparian setbacks.

**The Village of Grand River**

The Village of Grand River does not currently have regulations that speak specifically to riparian setbacks other than the final stabilization language covered in their erosion and sediment control ordinance.

**Painesville /Concord Township**

The Lake County Commissioners adopted riparian setback regulations for parcels to be subdivided in December of 2004 with the assistance and review of the Lake SWCD. The program works through current Lake County Planning Commission Subdivision Regulations (Section 3.d.1-3) and requires the following minimum setbacks for streams having a defined bed and bank:

- A minimum of 25' setback feet for all streams draining an area less than 2.5 square mile
- A minimum of 40' setback for all streams draining an area between 2.5 and 5 miles
- A minimum of 50' setback for all streams draining an area between 5and 10 miles
- A minimum of 75' setback for all streams draining an area between 10 and 20 miles
- A minimum of 100' setback for all streams draining an area between 20 and 50 miles
- A minimum of 120' setback for all streams draining an area greater than 50 square miles

These setbacks pertain only to proposed subdivisions in the townships and are applied to all new and/or proposed construction activities. The extent is defined by the above parameters and extended to the outer most limits of designated 100-year floodplains. These regulations also prohibit mass clearing within the riparian setback area.

*Public Outreach Component*

No public outreach components were identified for this implementation plan.

*Objective*

Synchronize land-use planning efforts to provide a coordinated use of land by all parties within the Mentor Marsh Area SAMP study area to protect the Marsh and enhance its economic value.

**Recreation and Public Access Implementation Plan 1: Strategic Recreation Plan / Urban (5.3.2)**

*Activity 1*

Incorporate the development of a strategic recreation plan into the Western Lake County Comprehensive Coastal Plan through coordination with the Lake County Comprehensive Coastal Plan Committee. The strategic recreation plan component of this Plan should accomplish the following:

- Promote a deeper understanding among public officials of the tools available for recreational land preservation and acquisition
- Integrate recreational and public access points into local and regional planning initiatives
- Update the inventory of publicly and privately owned recreational properties and the identification of undeveloped land suitable for future recreational use
- Provide guidance to communities on targeted planning initiatives for long-term promotion of recreation and public access resources
- Develop recommendations for accommodating heavy demand for public lakefront access for a variety of activities

*Primary Coordinating Agency*

Activity 1:

The Lake County Comprehensive Coastal Plan Committee, a sub-committee of the Lake County Planning Commission, will be the primary group responsible for the development of the plan.

*Participating Agencies, Organizations, and Entities*

Participating groups who will help develop the plan include: local residents, local communities, Ohio Department of Natural Resources (ODNR), MARC, Northeast Ohio Area-wide Coordinating Agency (NOACA), Lake County Metroparks, and City of Mentor Parks and Recreation.

*Costs*

The total cost to develop the Western Lake County Coastal Comprehensive Plan is $123,134. Fifty percent of the total cost is funded by federal coastal funds and the remaining costs are provided by non-federal funds.

*Timeline*

The Lake County Comprehensive Coastal Plan Committee has incorporated the development of a strategic recreation plan into the Western Lake County Comprehensive Coastal Plan. This process was completed on April, 2006.

*Existing Programs*

No existing programs were identified for this implementation plan or activities.

*Public Outreach Component*

A series of public meetings held throughout the development of the plan will inform the public of the strategic recreation planning process and provide citizens with the

opportunity to comment on the plan as it is developed. Once the plan is completed, a small brochure that briefly outlines the plan's goals and includes a map indicating the planned improvements to existing facilities and new proposals for greenways, trails, and parks will be developed to distribute to the public. This brochure will be sent to all individuals who participated in the planning process, will be posted at public places, and made available at local governmental offices.

*Objective*

To develop a strategic recreation plan for the Mentor Marsh and watershed.

# Evaluation and Performance Measures

The MARC was fully aware that any goals detailed in the SAMP would need to be evaluated for success. Performance measures were outlined for each of the implementation plans previously discussed in the SAMP.

**Water Quality Implementation Plan 1: Salt Contamination / Urban (5.3.2)**

The following measures will be used to monitor the success of this implementation plan:

- Completion of the USACE Section 206 Program or successful enforcement of ORC 6111 Water Quality Violations by the OEPA
- Measured reductions of chlorides in the soil and water of Mentor Marsh
- Capping of all salt-producing wells
- Removal of all brines and salt wastes stored upstream of Mentor Marsh
- Restoration and/or renovation of the cap on the mine tailings mound to prevent the introduction of chloride into the Mentor Marsh
- Documentation of the regeneration of native salt-tolerant species to Mentor Marsh
- Additional measures that may be determined

**Wetlands and Biodiversity Implementation Plan 1: Wetlands Mitigation / Urban (5.3.2)**

The following measures will be used to monitor the success of this implementation plan:

- Record of mitigation measure taken within the Mentor Marsh watershed as compared to the record of wetlands lost in the watershed
- Number of Acres of wetland lost versus the number of acres created, restored, or protected in the Mentor Marsh watershed

**Wetlands and Biodiversity Implementation Plan 2: Flora Biodiversity Loss / Urban (5.3.2)**

Annual assessment of native flora populations, both quantitative and qualitative, can measure the success or failure of habitat restoration projects. The key question to ask is whether the native species can gain a footing and out-compete the invasive species. If it is found that certain techniques and/or projects are unsuccessful, other plans will be attempted. There is much documentation with regard to the control of *Phragmites*, a hardy plant that can endure a variety of harsh conditions. There is no use in re-inventing the wheel: persistence is the key to *Phragmites* control.

**Wetlands and Biodiversity Implementation Plan 3: Hydromodification / Hydromodification (7.4.1), (7.4.2), (7.5.3), (7.6.1)**

Performance measures used to evaluate the success of this implementation plan include the installation of the check valve on the drainage ditch leading from the Grand River to Shipman Pond and the development of an educational program on Mentor Marsh hydrology.

**Shoreline Management and Near Shore Issues Implementation Plan 1: Insufficient Sand Supply**

- The following measures will be used to monitor the success of this implementation plan:
- Adoption and enforcement of sand bypass and beach nourishment requirements by local communities
- Development of fact sheets to educate shoreline property owners

**Shoreline Management and Near Shore Issues Implementation Plan 2: Activities Landward of the Bluff Edge**

The following measures will be used to monitor the success of this implementation plan:

- Adoption of the Western Lake County Coastal Comprehensive Plan
- Adoption of regulations for the coastal setback zone
- Development of educational materials and dissemination to local residents and political officials
- Increased inspection and prosecution of violators

**Land Use and Economic Development Implementation Plan 1: Provide for Coordinated Land Use Planning / Urban (5.3.3), (5.6.1), (5.6.2), (5.8.1), (5.8.2), Hydromodification (7.4.1), (7.4.2), (7.5.3), (7.6.1)**

The following measures will be used to monitor the success of this implementation plan:

- Jurisdictions adopting setback requirements for new development adjacent to the Mentor Marsh
- Jurisdictions adopting best management practices and stormwater NPDES Phase II requirements
- Jurisdictions adopting conservation subdivision regulations
- Jurisdictions adopting stream, riparian, and wetland setback requirements
- Continuation of the MARC and coordination of its activities to further its vision and update and monitor the Mentor Marsh Area SAMP
- Inclusion of the MARC's vision statement in local and county comprehensive plans and zoning and subdivision codes and policies
- Adoption of the "Handbook for Sediment and Erosion Control" for local road, highway, and bridge projects by jurisdictions.

**Recreation and Public Access Implementation Plan 1: Strategic Recreation Plan / Urban (5.3.2)**

The success of this implementation plan will be measured by the development of the Western Lake County Comprehensive Coastal Plan.

The Western Lake County Comprehensive Coastal Plan was developed in August, 2004.

# Plan Update and Revision

A plan to update and revise the watershed plan mimics a previously developed plan by the MARC for the SAMP. The goals, tasks, and strategies of the watershed plan are identical to those of the SAMP, and following the guidelines for this task already outlined by watershed stakeholders is the most appropriate course of action.

> "The MARC has proposed to review and assess the progress of the Mentor Marsh Area SAMP on an internal basis every 12 months. The MARC anticipates developing an annual report to document this internal review. An external review and update of the SAMP will occur in three to five years. It is anticipated a consultant will coordinate and assist with this review and update of the SAMP." (Davey Resources, 2004)

During the January 23rd regular meeting of the MARC, it was decided to review the SAMP and WAP for accomplishments and measurable goals. This process will be undertaken by a special committee to be convened at the next regularly scheduled MARC meeting on February 20th.

## References